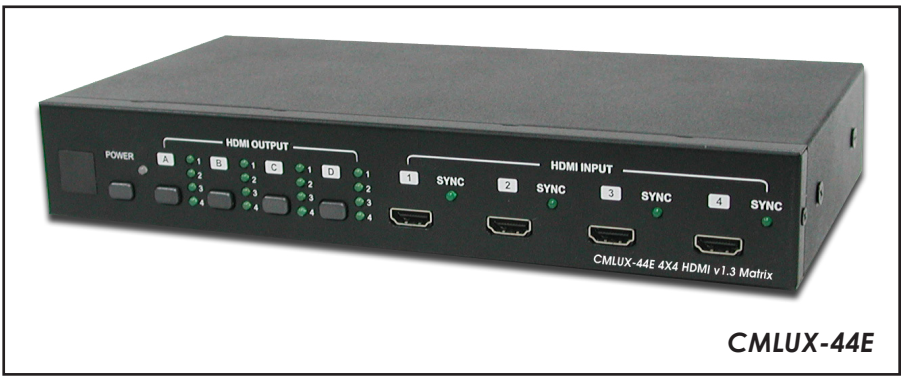
CMLUX-44E

4 by 4 HDMI V1.3 Matrix

Operation Manual



CMLUX-44E

Revision History

Version No.	*Date*	*Summary of Change*
V1	***20090521***	***Preliminary Release***
V2	***20100805***	***Adding RS-232 Setting***
V3	***20100923***	***HDMI Cable Distance***

Precautions

Failure to follow the precautions described below may cause damage to HDMI 1.3 Matrix Box and void the warranty.

- DO NOT open the device, doing so will void the warranty. If you have problem with it, please return it to your retailer or seller who will then assist you.
- DO NOT use a third party AC adapter or power cord. Doing so may damage the HDMI 1.3 Matrix.
- DO NOT bump, shake or drop the contents of this products as it may damage it and result in a void warranty.
- DO NOT put any containers with liquids or drinks on the drive as they may damage the 4by4 HDMI V1.3 Matrix.

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1. Introduction

While HDMI products are getting more and more popular people are now starting to have more than one HDMI device. The HDMI V1.3 Matrix is the ideal solution for connecting all your HDMI devices, and thanks to the included remote this system gives you complete control over your media environment. Furthermore, the HDMI V1.3 Matrix can transfer Deep Color video and bit stream digital audio with maximum performance and also supports HDMI 1.3, HDCP 1.1 and DVI 1.0. Please follow this manual to begin enjoying the benefits of your HDMI 1.3 Matrix. We suggest keeping it in a safe place for future reference.

2. Applications

- Multi-source input with multi-display output control
- Home entertainment integration.
- Multi-task project presentation.
- Showroom display.
- Advertising display control.

3. Package Contents

- 4 by 4 V1.3 HDMI Matrix.
- Remote Control CR33 (with Battery)
- IR Receiver
- 5V DC power supply adaptor.
- Operation Manual.

4. System Requirements

HDMI input device(s) and HDMI output device(s).

5. Features

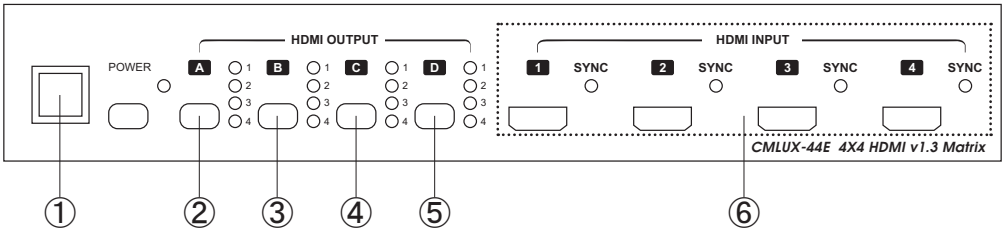
- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant.
- Supports digital video formats in Deep Color Mode at up to 36 bits (12bits/color) and a new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio) digital audio and LPCM7.1.
- Has LED input source indicators for each output option.
- Compatible with all HDMI sources and displays.
- Supports a wide range of PC and HDTV resolutions from VGA to UXGA and 480i to 1080p.
- Has RS-232 control.
- IR remote controller and IR extender.
- Dolby Digital, DTS digital audio transmission (32-192 kHz Fs sample rate).
- HDMI cable distance test showed that with 1080p/8-bit & 12-bit resolution, the input/ output source(s) can be up to 15/15 meters away.
- High perfomance Matrix with four inputs and four outputs.
- When the HDMI signal passes through the system it is Re-timed and level compensated to preserve signal.
- Switchable EDID function for choosing EDID to display.

6. Specifications

Frequency bandwidth	2.25Gbps (single link)
Input ports	4 x HDMI female ports,
Output ports	4 x HDMI female ports
EDID	Standard, TV/Moving Port 1
HDMI Audio output	PCM2, PCM5.1, PCM7.1, Dolby5.1, DTS5.1, DD+ TrueHD, DTS-HD
HDMI Cable in	1080p 8bit (15M), 1080p 12bit (15M)
HDMI Cable out	1080p 8bit (15M), 1080p 12bit (15M)
Color Space	RGB_24/36,YCbCr 4:4:4_24/36, YCbCr 4:2:2,xvycc
IR	Yes
IR extender	x 1
Deep Color	1080p 12bit
HDMI Resolution	480I~1080p 50/60, 1080p 24, VGA~UXGA
DVI Resolution	480I~1080p 50/60, 1080p 24, VGA~UXGA
Power Supply	5VDC/3.2A (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	280(W) x 145(D) x 49(H)
Weight(g)	1190
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0°C ~ 40°C
Power Consumption	13W

7. Installation

7.1 Front Panel



① . Remote control sensor.

② . Input Select/Indicators (A): Press the HDMI out "A" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI A output.

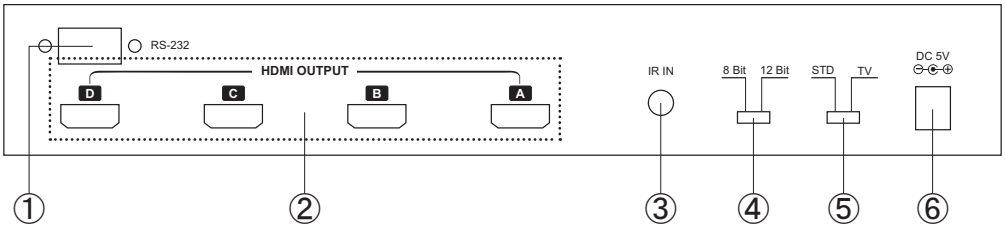
③ . Input Select/Indicators (B): Press the HDMI out "B" button repeatedly to witch o your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI B output.

④ . Input Select/Indicators (C): Press the HDMI out "C" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI C output.

⑤ . Input Select/Indicators (D): Press the HDMI out "D" button repeatedly to switch to your desired source and the LED will illuminate to indicate which input source is being selected and routed to HDMI D output.

⑥ . HDMI inputs: Connect input ports to the HDMI or DVI output of your source equipment such as DVD player or set-top-box. When the input connection been detected the SYNC LED will illuminate.

7.2 Rear Panel



① . RS-232 communication port: Connect the COM port of your PC here in order to gain control over the RS-232 channel. Detail Specifications in section 8.

② . HDMI outputs: Connect each of these output ports to the HDMI display(s). The device supports repeater function and each output port can supports 16 key sets of KSV and 4 outputs can support a total of 64 key sets of KSV.

③ . IR IN: Place the IR receiver cable in front of the displays and then using sources remote control to control sources through IR receiver cable.

④ . 8/12 bits switcher – Supports 8 or 12 bit's deep color function. This selection is only available when EDID is in STD mode.

Note:

When HDMI output has both 8-bit and 12-bit displays, in order to ensure all output will display properly, please switch to 8-bit output. On the other hand, when all output are within the same range, 12-bit or 8-bit then switch to either 12-bit or 8-bit. The splitter cannot function properly while simultaneously handling different bits of display on HDMI output.

⑤ . EDID Control Switcher: Default factory setting is TV, leave as is when the displays are working properly. Switch to STD to use built-in EDID.

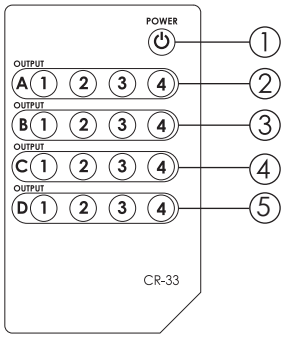
Note:

1. STD means internal EDID, TV means external EDID.
2. When EDID switched to TV, the unit will detect the first DVI output source's EDID and record it in the unit. If the first detected output source is HDMI it will pass on to the next source, until the first DVI been detected. The detection priority is HDMI v1.3 < HDMI v1.2 < DVI.
3. When EDID is on STD: unit use built-in EDID
   Video Support ->1080p 12-bit (max)
   Audio Support ->PCM2.
4. EDID switching while media is being displayed will cause the image to pause due to EDID re-setting and image re-positioning.

⑥ . Power: Plug the 5VDC power supply into the unit and connect the adaptor to AC outlet.

8. Remote Control

1. Power: Press the button to turn on/off the unit.
2. Input Select for HDMI OUT A: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT A.
3. Input Select for HDMI OUT B: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT B.
4. Input Select for HDMI OUT C: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT C.
5. Input Select for HDMI OUT D: Press 1, 2, 3 or 4 to select the desired input source for HDMI OUT D.



9. RS-232 Protocal

Pin Definition

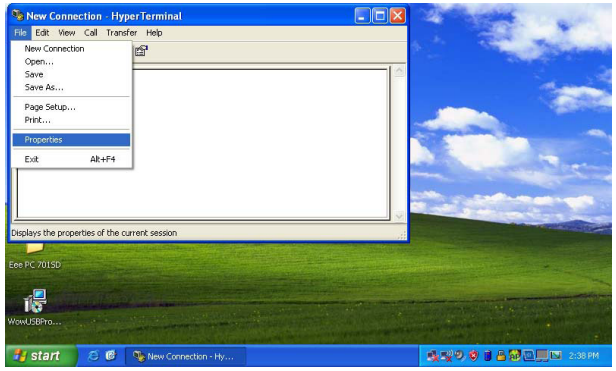
CMLUX-44E			**Remote Control Console**	
PIN	**Definition**		**PIN**	**Definition**
1	NC		1	NC
2	TxD		2	RxD
3	RxD	→	3	TxD
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

* RS-232 transmission format:
  Baud Rate: 19200bps
  Data Bit: 8 bits
  Parity: None
  Stop Bit: 1 bit
  Flow Control: None

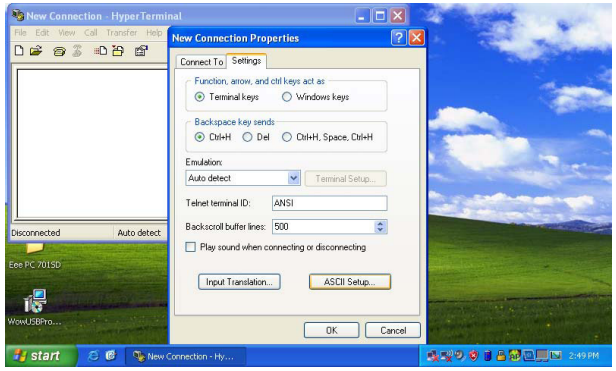
9.1 RS-232 Setting

Enter into HyperTerminal from Window Start.

Click the Properties from File .

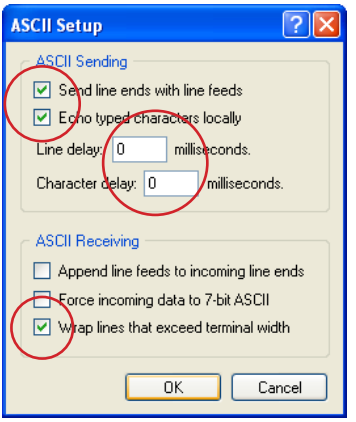


Press the Settings and click on ASCII Setup...



9.1 RS-232 Setting

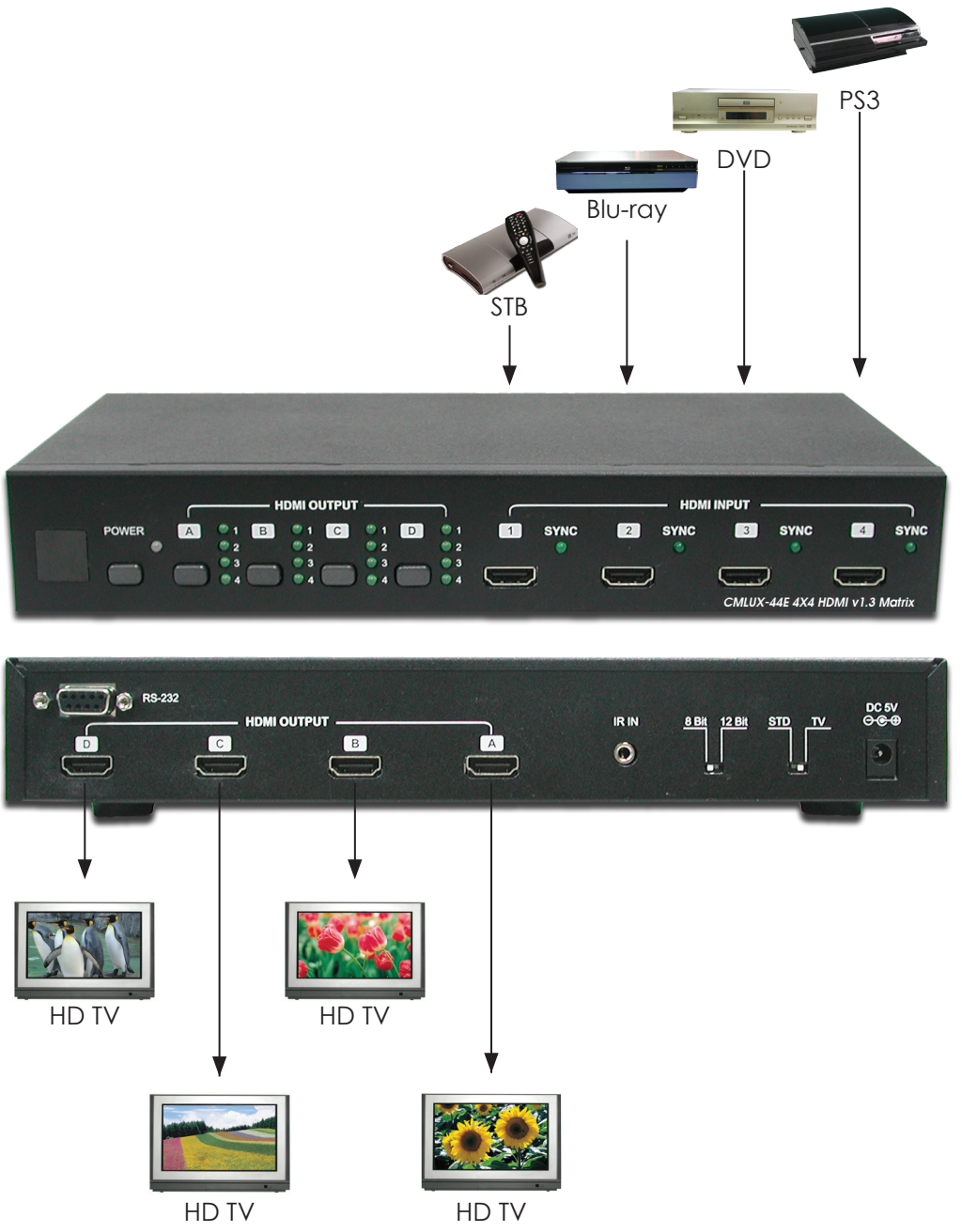
1. Please ensure the HyperTerminal's ASCII setup is following to the setting as to below diagram.



9.2 Commands

COMMAND	ACTION
POWER 00 ↵	Power Off (standby)
POWER 01 ↵	Power On
PORT 11 ↵	Output A select Input1
PORT 12 ↵	Output A select Input2
PORT 13 ↵	Output A select Input3
PORT 14 ↵	Output A select Input4
PORT 21 ↵	Output B select Input1
PORT 22 ↵	Output B select Input2
PORT 23 ↵	Output B select Input3
PORT 24 ↵	Output B select Input4
PORT 31 ↵	Output C select Input1
PORT 32 ↵	Output C select Input2
PORT 33 ↵	Output C select Input3
PORT 34 ↵	Output C select Input4
PORT 41 ↵	Output D select Input1
PORT 42 ↵	Output D select Input2
PORT 43 ↵	Output D select Input3
PORT 44 ↵	Output D select Input4

10. Connection and Installation



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20090521 MPM-CMLUX44E